

# MISSOURI resources

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## Director's Comment

### In the Spirit of St. Louis Urban Outreach Office Takes Flight

by Julianne Stone

The Department of Natural Resources is taking an innovative approach to urban environmental challenges, drawing on the diverse talents of its St. Louis Urban Outreach Office staff.

### A Credit to History

by Tracey Berry

In its heyday, the Hotel Governor in Jefferson City buffered many deals within its walls. While those walls will never speak their secrets, cooperation between city, state and private enterprise has ensured that they will, at least, still stand.

### Farewell to Arms

by Ramona Huckstep

Decades of weapons production has left environmental contamination around the state. The battle now is to clean up these sites, allowing future generations to use them without risk to their health.



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Rustic Revival



DNR photo by Scott Myers

**Above right:** Julianne Stone heads the Missouri Department of Natural Resources' new St. Louis Urban Outreach Office.  
**Above:** The Jefferson Barracks National Cemetery near St. Louis is part of a Formerly Used Defense Site slated for cleanup.



**Front Cover:** Opening day of trout season draws thousands of anglers, like this man trying his luck at Bennett Spring State Park.

**Back Cover:** A coal-fired powerhouse at Weldon Spring, vacant since VJ Day in 1945, stands as a reminder of the state's war effort.  
*Cover photos by Scott Myers*

# A Credit to History

by Tracey Berry  
photographs by Scott Myers



This view shows the Governor Office Building as it is seen from Madison Street in Jefferson City. The renovation of the former Hotel Governor demanded a restorative approach to the building's exterior, with windows playing a key role.

Atop the roof, illuminated red letters 6 feet tall and 4 feet wide beckoned visitor and Jefferson City resident alike to the Hotel Governor. And they came. For five decades the massive art deco building that dominates the east corner where Madison Street and Capitol Avenue meet was where lawmakers and lobbyists also came together – to eat, socialize and negotiate deals that would affect Missouri residents.

"It was the nucleus of all political activity," said Bruce Cohn, who now owns the former hotel.

The Hotel Governor closed in the late 1980s, and City National Savings and Loan took it over in a foreclosure action. For more than a decade it remained vacant as wind and water took a toll. Pigeons replaced politicians as the tenants of the monolithic shell whose walls, said to hold the secrets of the state, crumbled away. A number of developers flirted with the idea of renovating the hotel. The estimated costs of replacing outdated plumbing and wiring, environmental remediation and bringing the dying structure into compliance with the Americans with Disabilities Act (ADA), made most proposals unfeasible.



"It's amazing how rapidly a building will deteriorate if there's limited maintenance and no heat," said Lance Carlson, an architect with the Missouri Department of Natural Resources' [Historic Preservation Program](#). "Sitting empty through 10 winters, the roof failed, there were window openings left uncovered, pigeons moved into the upper floors."

However, thanks to the intervention of the building's namesake across the street, and cooperation between the city, state, banks and developers, the former hotel is once again bustling with activity – this time as the Governor Office Building.

When fire destroyed the Madison Hotel in the spring of 1939, the capital city was left with a shortage of lodgings. Jefferson City Chamber of Commerce members began negotiating with hotel developer William G. Beberich to expand his operations to their city. The Chamber offered Beberich a \$90,000 subsidy to build a hotel in exchange for a commitment that the new building would include a spacious lobby, meeting rooms and a ballroom. Construction of the concrete post-and-beam building began in March 1941. It was completed in September 1942 following delays caused by a shortage of steel as well as skilled and unskilled labor as the United States entered World War II.

In Sept. 13, 1942, the Jefferson City Sunday News and Tribune heralded the opening of the hotel with several pages of articles including a prediction of understated accuracy about the Rathskeller, a tavern on the lower level of the hotel. "Exterior Duplicates an Old English Tavern; Will Be Popular," the headline forecasted. Was it ever.



Retaining the feel of a hotel lobby in the Governor Office Building's main floor was a priority for the Department of Natural Resources' Historic Preservation Program.

"The Rathskeller was a meeting place," Cohn said. "From there, a legend was born. They say more deals were struck there than in the Capitol."

As the principal lodging place for state senators, representatives and lobbyists, the Hotel Governor played host to numerous political meetings during the ensuing years. It also was the site for many inaugural balls.

However, as Jefferson City grew and competition increased from other lodging alternatives, the Hotel Governor's popularity waned.

After the City National foreclosure, the bank unsuccessfully attempted to interest new buyers.

"Many developers wanted to do something but couldn't get through the planning stages," Cohn said. The hotel that originally was constructed for approximately \$700,000 would demand \$15 million in renovations.

From across the street, the late Gov. Mel Carnahan and his wife, now Sen. Jean Carnahan, sadly witnessed the building's decay. Carnahan brought the state into the picture in 1993, asking then-Commissioner of Administration Dick Hanson to find a solution to the ever-worsening eyesore.

Ultimately, that solution involved City National Savings and Loan donating the building to the city, which, working with state officials, agreed to turn it over to any developer who would demolish it and rebuild or renovate the hotel and lease the space back to the state for offices. By 1997 the state was ready to advertise for bids.

"I came and looked at the building and said, 'There aren't many things that distinguish it architecturally,' but its history didn't make demolition a possible scenario," Cohn said. His bid on behalf of his development firm, the Hotel Governor LLC, was awarded the project.

Cohn realized the key to making the project work would be tax credits.

Federal tax credits for the rehabilitation of historic buildings have been available since the early 1980s, administered in Missouri by the state's Historic Preservation Program, a part of the Department of Natural Resources. The tax credits, aimed at protecting historic buildings, allow investors to claim a 20 percent tax credit for costs associated with rehabilitating historic structures. In 1997, the Missouri legislature passed its own version of the tax credit law, which went into effect in 1998. It allows a 25 percent credit. The Department of Economic Development administers the state tax credits, and the Historic Preservation Program reviews planned work to ensure compliance with the Secretary of the Interior's Standards for Rehabilitation.

Owners whose buildings qualify for the credits can raise capital needed to fund renovations by selling the state credits. Individuals and corporations purchase the credits at a discount to reduce their tax liabilities.

Cohn applied for the federal and state credits to fund the work needed, along with Brownfield credits, which can be used to offset the costs involved in environmental remediation. The Brownfield credits were used to pay for asbestos abatement. The credits allowed Cohn to raise between \$5 million and \$6 million that he used for restoring the building.

"These programs are incentives to keep a historic feel for a community. Along with that incentive comes a responsibility to do just that," Cohn said. The former hotel is part of the Missouri State Capitol Historic District. Keeping that historic feel in a building that needed \$15 million worth of work became Cohn's next challenge. "We had to get creative," he said.

Carlson, who oversaw the project for the department, encouraged a restorative approach for the former hotel's exterior envelope and public areas while agreeing to more flexibility in the way the upper floors were altered from lodging rooms to office space.

"It was important that they maintain the feel of the hotel lobby and its appearance from the street. The upper floors needed modernizing. They were awkward and required some demolition," he said.

The end result is a communion of history, modern safety standards and demands for contemporary services.

The marble wainscoting that adorned the walls of the original lobby was preserved, but now the lobby space and former check-in desk function as a cafe where visitors and building tenants can order coffee, sandwiches or salads. Much of the lobby terrazzo remains, as does the stainless steel art deco stair rail leading from the lobby to the fourth floor. Transparent acrylic panels have been added that prevent children from poking their heads between the rails.

Cohn also was able to salvage the ballroom floor. When the renovation project began, the hardwood surface had been subjected to 10 years of leaking water. A large trough rested in the room, strategically placed to catch as much of the leak as possible. Now, the same boards that several generations have two-stepped, jitterbugged and hustled across gleam as if new. Cohn installed retrospective light fixtures in the room to retain the 1940s ballroom feel in what now functions as a meeting room.

The upper floors were renovated to accommodate the state's need for office space while the appearance of hotel hallways was retained. Converting the eight-story hotel into a 10-story office building also meant lowering the basement floor to create two more levels below the lobby. In response to the requests of a tenant, a conference room was added onto the former penthouse for the law firm that rents that space. A rooftop patio area overlooking the Governor's Mansion and the Missouri River can be rented for special events.

Windows became a key factor in retaining the character of the building's stark exterior. "The first thing you see are the windows," Cohn noted of the blocky, red brick and limestone structure. The original architectural drawings showed wooden, multi-light windows with double-hung sashes. However, during original construction, aluminum windows were used instead of the wooden windows called for in the original plans. Later, a manufacturer was found that could duplicate the aluminum style and still offer modern energy efficiency.

Another major undertaking involved safely removing and disposing of lead-based paint and asbestos-containing pipe insulation and ceiling tile glue. The Department of Natural Resources reviewed the cleanup, which alone cost more than \$1 million.

"I knew it was a massive undertaking," Cohn said. "I knew that in any project of this scope there would be conditions. Did I know what they would be? No."

Original features that safety and ADA concerns dictated must be sacrificed included elevators, which were gutted and replaced, and the revolving door that led from Madison Street into the lobby. The rooftop letters that dominated the Jefferson City skyline for so many years announcing the hotel's location also came down.

On the roof, instead, will be yet another example of a new era for the old hotel. A cooperative agreement between Cohn and AmerenUE will allow the Department of Natural Resources to use the facility to document the sun's potential as a renewable energy resource for Missourians. Possibly as early as this fall, the department will install a photovoltaic array to



A brochure for the newly built Hotel Governor boasted that the modern facility was "The Hub of All Activities."

capture sunlight, which then will be converted into electricity.

"We are estimating this installation will have the capacity to generate between two and three kilowatts of electricity on a bright, sunny day," said Sam Orr, a planner with the department's Energy Center. "It could power 10 to 15 computers."

While the overall amount of conventional electricity required by the Governor Office Building will not be reduced significantly, the value of this photovoltaic project rests with the data it will provide about solar power.

"The idea is interpretation so people can learn about solar energy," Orr said. "Solar energy is one renewable source that can help supply some of Missouri's energy needs."

A display in the building's lobby will monitor how much electricity the photovoltaic device is generating. Visitors will be able to learn what a solar array looks like and observe one working in tandem with a conventional energy system to safely supplement the amount of voltage drawn from nuclear- or fossil-fuel-powered plants.

In addition to educating the general public, the project will allow the department and AmerenUE to record the sun's viability as an alternative energy source. The department will fund the purchase and installation of the array, while AmerenUE will supply the system and software to capture the data for interpretation. Cohn is supplying space on the roof and in the lobby.

Photovoltaics work at the atomic level by converting the photons from sunlight into electricity using cells composed of semiconductor materials, such as crystalline silicon. The cells are connected to form modules and the modules grouped to form an array, the size of which determines the amount of energy that is collected. When the photons from sunlight strike a photovoltaic cell, some are absorbed and their energy is transferred to an electron.

The electron is captured and becomes part of the current in an electrical circuit. To be most effective, photovoltaic arrays must be located where trees or other objects will not shade them. The array atop the Governor Office Building will be tilted south at an angle of 38.5 degrees, which is Jefferson City's latitude north of the equator. This angle allows the maximum amount of solar energy to be captured.



The late Gov. Mel Carnahan could see the deterioration occurring at the former Hotel Governor from the Governor's Mansion.

While it was discovered in 1839, solar energy has only been in use since scientists began exploiting it as an energy source during the space program in the 1960s. It has served niche markets where small amounts of power are needed, such as for calculators and watches. It also is useful for remote sites where extending power lines over long distances is prohibitively expensive. Remote uses include electric fences, security lights or lighting for parks.

Nationally, a few utility companies have started to use solar energy as one source of power generation, and it is used in many developing nations.

"Although solar energy is not the most economical power source in most cases in this nation, costs continue to decrease and it offers environmental benefits as a renewable energy source," said Orr.

The photovoltaic array will share quarters with another 21st century fixture – a cellular telephone company has rented roof space for an antenna.

In accordance with the original agreement, Cohn has leased 80 percent of the nearly 100,000 square feet back to the state. The Office of Public Counsel and the Public Service Commission (PSC) house employees in the building. The PSC also has two hearing rooms on the main floor and the building

accommodates the Office of Administration Conferencing Center.

The rooftop addition houses the law firm of Bartimus, Frickleton, Robertson and Obetz, as well as Cohn's office. Other tenants are Premier Bank, the Coffee House Café, Kaiser Jewelry, Mail Boxes, Etc. and the Missouri School Boards' Association.

Cohn said he never advertised the building for lease; it was filled to capacity before its doors opened. Still, Cohn said the

project is not a "get-rich-quick scheme."

"I'm in for the long haul – to be part of something great for Jefferson City."

For Historic Preservation Program Assistant Director Mark Miles, that comes as great news. "To see the building up and lit and occupied, it's just terrific."





## Director's Comment

In February, Missouri Governor Bob Holden asked me to continue leading the Department of Natural Resources. It is an honor to be entrusted with the precious resources of this state. My staff and I take seriously our responsibility of stewardship to protect and enhance the environment in which we all work and live. To do this effectively, we have to consider all aspects of the environment when we make decisions. The past three years, our staff have focused renewed efforts toward the values of integrity, an openness to all individuals and points of view, an appreciation of diversity in people and approaches, a goal of excellence in all we do and with a service mindset.

One thing I have learned over the course of my career is that there is always a debate over doing things right or doing the right things. This issue never goes away, and it holds true for our agency. Do we do things by simply following procedures and processes, or do we look for innovative ways to better serve our constituents?

We have learned a great deal over the years about the importance of customer service. I feel strongly about putting our services where the people are. To this end, we have developed an urban outreach office in the St. Louis area that offers a range of our services, including energy advice and assistance and an ombudsman to help citizens with questions about the region's Gateway Clean Air Program. A similar office will open later this year in the Kansas City metropolitan area.

In addition to the outreach offices, I've been thinking about changes within the department itself. I'd like to see some real improvements that focus on quality and service. We are one of four state agencies selected by Governor Holden to participate in an initiative to make our state's key processes more efficient and effective. The result will be improved services for you and a better environment for all of us.



We're also looking at other organizational changes. Our current structure has been in place for more than 25 years. We need to be more efficient and flexible in responding to citizens. Again, in the interest of doing the right thing, I want to move beyond outdated processes. The environmental issues and problems that we are facing today are far more complex than those we faced in 1974.

I am interested in change that results in enhanced service to Missourians and in improvements for the environment. What won't change is our goal for you to enjoy clean air to breathe, clean water for drinking and recreation and land that sustains a diversity of life while supporting and enhancing Missouri's economy.

In my last Director's Comments, I neglected to mention the important contribution that the U.S. Fish and Wildlife Service is making toward the creation of a new state park at the confluence of the Missouri and Mississippi rivers. Staff from the service's Big Muddy National Wildlife Refuge are working diligently with us in various ways to bring additional acreage into public ownership. We all know how important the cooperative efforts of many agencies are to our common goals along the Missouri and Mississippi rivers. I would like to apologize for this omission and thank the Fish and Wildlife Service for its support in helping us better serve Missouri citizens.

*Steve Mahfood*

Missouri Department of Natural Resources



## Creating Cool

The heat of a Missouri summer can seem relentless, but as energy costs and concerns about global warming and ozone depletion are heightened, air conditioning is becoming a less-appealing solution. "Passive" cooling helps maintain comfortable temperatures while being kinder to both the environment and the family budget.

Approximately 30 percent of indoor heat enters through the roof. Roof coatings offer both reflective and waterproofing properties. Placing a radiant barrier - a sheet of aluminum foil with a paper backing - on the underside of the roof can reduce heat gains through the ceiling by 25 percent.

Windows are another major source of unwanted heat. Coatings can be applied that reflect heat, cut glare and reduce fading of furniture, draperies and carpeting. Combination films, which allow some light and heat in and also prevent interior heat from escaping, work best in climates with hot and cold seasons.

Attic insulation can repel summer heat as well as winter chill. Wall and floor insulation is less important.

Trees, bushes and vines, strategically placed on the south and west sides of the house, block the sun and offer shade. Deciduous trees that lose their leaves in the fall cut cooling costs and allow the sun's warmth to penetrate in winter.

Do not overlook interior sources of heat gain, lights, ovens, dishwashers and dryers. Compact fluorescent lamps emit 90 percent less heat than incandescent lamps for the same amount of light. Barbecue grills and microwave ovens generate less indoor heat than gas or electric ranges. Washers and dryers generate large amounts of heat and humidity. Seal off the laundry room from the rest of the house and, weather permitting, dry clothes outside.

Source: U.S. Dept. of Energy

# MISSOURI resources

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by Ramona Huckstep

Missourians from St. Louis to Kansas City and Kirksville to Neosho have served the United States during times of war. Missouri has produced great military leaders like generals John J. Pershing and Omar Bradley, and sent many everyday citizens to the trenches. Our state's contribution, however, has extended beyond those who served in uniform.

Missouri has been home to numerous Air Force bases and Army and National Guard training sites. Many families from Missouri and surrounding states remember driving along Route 66, now Interstate 44, to take a soon-to-be-soldier to basic training at Fort Leonard Wood. Military personnel still receive training today at Fort Leonard Wood and other military bases including Camp Crowder, Whiteman Air Force Base and parts of Weldon Spring Ordnance Works. Through the years, Missouri also produced weapons and tools to support the military at various sites. In some cases, the waste left behind from creating weapons, chemicals and machinery damaged the environment.

People realize that former and current military sites need to be cleaned up. The main issues center on what to do with contamination left behind from the production of materials used for national defense and how these federal facility sites will be used in the future. "The U.S. Department of Energy and U.S. Department of Defense recognize their role during the Cold War and acknowledge their long-term responsibility to protect our citizens from the legacy of weapons production in our state," said Missouri Department of Natural Resources Director Steve Mahfood.



The Department of Natural Resources has identified 37 former or current Department of Defense or Department of Energy sites that need to be returned to environmentally sound condition. Five of these sites are on the U.S. Environmental Protection Agency's (EPA) National Priority List of Superfund sites. At the EPA's request, the Department of Natural Resources also is reviewing and investigating an additional 58 Formerly Used Defense Sites. The task at hand is cleaning up these rural and urban sites from the 1940s, '50s and '60s.



Ammunition is still produced today at the Lake City Army Ammunition Plant in Independence. Lake City is a government-owned facility established in the early 1940s to produce small-caliber ammunition. To this day, military personnel preparing for missions or training are likely to find the Lake City Army Ammunition Plant stamp on the bottom of their shell casing. It is the only small-caliber ammunition manufacturing facility within the Department of Defense. During the Vietnam War, Lake City produced more than 14 billion rounds of ammunition of various sizes.

Years of unregulated waste handling and disposal practices at Lake City resulted in widespread environmental contamination by hazardous substances including oil, grease, solvents, explosives and metals. The Army now is using various methods to clean up the

site. To reuse idle portions of the plant, Department of Defense officials are encouraging private industry to use the facilities and equipment. Sixty different companies have expressed an interest in using parts of the plant.

Aircraft engines were produced and tested at the Department of Energy's Kansas City Plant on Bannister Road before its current mission of making non-nuclear components for weapons systems. Over time, soil and groundwater at the plant became contaminated with trichloroethylene (TCE) and other solvents, metals and polychlorinated biphenyls (PCBs).

TCE was used extensively in the 1950s and 1960s as a degreaser and belongs to a family of compounds called chlorinated solvents. Chlorinated solvents are common contaminants in soil and groundwater. Highly volatile, TCE is an effective cleaner, degreaser and dry-cleaning compound. However, TCE is toxic to humans even at relatively low concentrations and is particularly harmful when inhaled.

The Department of Energy is trying several methods to remove contamination from groundwater at the site such as a permeable reactive barrier to break down chemicals, as well as continued monitoring. The Department of Natural Resources has suggested steam injection and other technologies in this effort.

It did not have to explode, fly or even be launched to have the potential to pollute. At any given time during the Cold War, there were at least 150 Minuteman II missile sites armed and ready for deployment throughout the state. These underground silos were under the supervision of Whiteman Air Force Base in Johnson County. The missiles were decommissioned in the 1990s, but on-site petroleum tanks that heated the facilities and ran the emergency generators remain. Although the tanks were properly closed in place and the petroleum was removed, long-term groundwater monitoring is under way to detect any leakage that may have occurred during past use.

In the early 1940s, the largest producer of trinitrotoluene (TNT) in the world was the Weldon Spring Ordnance Works, 30 miles west of St. Louis. An estimated 740 million pounds of TNT and DNT (a munitions propellant) had been produced by the time the 17,000-acre Department of Defense site closed in 1945. From July 27, 1998, to March 31, 1999, an incinerator was used to burn off the TNT and DNT contamination in 71,000 tons of soil before it was returned to the excavations.

Uranium processing also took place at the Weldon Spring site in support of the Manhattan Project, which created the atomic bomb. A uranium processing plant continued to operate at the site under contract with the Mallinckrodt Chemical Works from 1957 to 1966. An average of 16,000 tons of uranium material was processed each year. This generated wastes such as uranium, nitrates and nitroaromatics.

Two major cleanups currently are being performed that relate to atomic projects: the Formerly Utilized Sites Remedial Action Program (FUSRAP) and the Weldon Spring Sites Remedial Action Project (WSSRAP). FUSRAP includes many sites within the St. Louis area. WSSRAP sites contain approximately 1.48 million cubic yards of waste generated by the

former ordnance- and uranium-processing plants. This waste has been placed in a specially engineered 75-foot high, 45-acre disposal cell.

Eric Gilstrap, senior project manager at the department's FUSRAP Federal Facilities Field Office in Florissant, said, "It is our job to provide oversight on the cleanup of radiological and chemical contamination generated by military activities in this area." Ben Moore, senior project manager at the department's WSSRAP Federal Facilities Field Office in St. Charles said, "We are working with federal facilities to clean up sites now so future generations will be informed when using the land."

Cold War engine testing was not confined to jet aircraft. For 16 years, starting in 1957, rocket engines for missiles such as the Atlas, Thor and Saturn were tested at Air Force Plant 65, which is now part of Camp Crowder near Neosho. The U.S. Air Force developed the Atlas as America's first Intercontinental Ballistic Missile. Its Cold War mission was to deter nuclear attack. The Atlas was retired from military service without ever being used, but water and soil contamination caused by cleaning the rocket engines with TCE still is present. To address the TCE contamination, sources of the contamination are being identified, soil is being removed for treatment and the groundwater is being pumped and cleaned to prevent further migration. The cleanup is being performed by the Department of Defense with oversight by the EPA and DNR.

What do we do with these former federal facilities once remedies have been applied? In some instances, property has been turned over to local schools, universities and local and state governments. Francis Howell High School, in St. Charles County, is located on parcels of land that were part of the former Weldon Spring Ordnance Works. Other land has gone to conservation agencies for nature centers and wildlife areas.

## **The Cold, Hard Facts**

Environmental stewardship, as defined in a 1998 U. S. Department of Energy stakeholder report, is "acceptance of the responsibility and the implementation of activities necessary to maintain long-term protection of human health and of the environment from hazards posed by residual radioactive and chemically hazardous materials." Stewardship from this perspective refers directly to the continued care and monitoring of contaminated areas by the federal government that will be necessary to address contamination that is not cleaned up.

Based on current technology there are limits to how much contamination can be cleaned up. Realistically, all contaminated sites cannot be returned to a pristine condition. So the object of stewardship planning is to

To help put the land back into productive use, a trail and interpretive center recently were proposed at Weldon Spring. The trail would link the facility with Katy Trail State Park. The "Hamburg Extension," as the trail is called, is on land that was formerly occupied by the towns of Hamburg, Toonerville and Howell, which became part of the ordnance works in 1941. Former Department of Energy Secretary Bill Richardson said, "Not only will the Hamburg Trail expand public accessibility to the Weldon Spring



ensure responsible long-term management of areas that cannot be completely cleaned up.

Some components of stewardship plans are to preserve information on the location and longevity of residual contamination, as well as to develop the means to monitor and restrict access and use of these sites to ensure that future generations do not inadvertently disturb contaminated areas. The Missouri Department of Natural Resources and the federal government are working together to include stewardship planning in their cleanup activities and are hopeful that communities will provide input and support to ensure that these issues continue to be addressed for future generations.

Although the future use of many of these sites may change, by developing appropriate long-term plans, many of the potential concerns and some of the uncertainty can be addressed or removed.

learning center, but it will be a symbol of our efforts to serve as environmental stewards and protect land for the benefit of future generations."

Other former defense sites being used for new purposes include Vichy Army Air Field, now called the Rolla Airport, and the Malden Air Field, which currently are municipal airports. Richards-Gebaur Air Force Base is now part of an intermodal rail system, under the direction of the city of Kansas City, installed to transport new automobiles through the United States. The base also houses Marine Corps regiments

with classrooms and living quarters for military and civilian personnel.

A site once known as Tyson Valley Powder Farm tested and stored ammunition in Eureka. St. Louis County and Washington University now operate parts of Tyson for such diverse activities as recreation and ecological and educational studies.

The war has been fought, but the battle to clean up these sites remains. Cleaning up federal facilities and identifying future restoration and containment is an ongoing effort. By doing our part now, the spoils of war will no longer spoil the environment.

*Ramona Huckstep is community relations coordinator for the Hazardous Waste Program, Federal Facilities Section within the department's Division of Environmental Quality.*



## Letters

We would like to use the article "Risky Business" from the Vol. 18, Spring 2001 issue of *Missouri Resources*. We are printing a drug book for citizens of St. Francois County to acquaint them with the dangers and also signs and symptoms of drug use.

We will be happy to give the Missouri Department of Natural Resources a credit in our book as the provider of this information.

Deputy George O. Cobb  
Community Policing Officer  
Farmington

I have enjoyed reading *Missouri Resources*. How long will it be until the soy plant in Craig, Missouri is producing ethanol and where will we be able to buy it?

Craig Fletchall  
Savannah

Editor's Note:

*Golden Triangle Energy Cooperative began producing fuel-grade ethanol in February of this year. The facility will use more than 6 million bushels of corn each year and produce between 15 and 18 million gallons of ethanol annually. The fuel is already available at various gas stations in your area.*

I have a few questions about an article written in the Winter 2000-2001 issue of *Missouri Resources*. The article I would like to know more about was entitled "Going With the Flow," by Linda Vogt. I am especially

interested in knowing what species of plants were used on the slopes of the banks or on the top. Are there certain kinds of trees, bushes and wildflowers that are best suited to this environment? Were ground covers or vines used and if so, which varieties? I would also like to know what options may exist for the "toe" of the stream. The sides are old concrete walls that have partially fallen down. Would a good design use riprap or gabion baskets? Or should I rebuild the block walls with, say, Versalock blocks? What type of mesh fabric should be used? Which kind of mesh was used in Maryland Heights?

Are there other sources that would be helpful? The stream I wish to improve is smaller than Midland Creek. Like most urban streams, it must carry the storm water, but I would like it to be beautiful, too!

Frank Peterson  
Fenton

Editor's Note:

*John Johnson of the department's Water Pollution Control Program assisted Mr. Peterson with his questions. Johnson can be reached via the department's toll-free number at 1-800-334-6946.*

A Cape Girardeau friend and colleague in Stream Team work passed along her Winter 2000-2001 issue of your excellent magazine to me. Outstanding articles like Linda Vogt's "Going With the Flow" will help our club's three teams in their work (under the able guidance of Arkansas Game and Fish's Steve Filipek and staff).

Please start a subscription for us care of my address. Keep up the great information! Thanks.

William A. Saunders, Jr.  
Little Rock, Arkansas

Letters intended for publication should be addressed to "Letters," *Missouri Resources*, P.O. Box 176, Jefferson City, MO 65102-0176 or faxed to (573) 751-7749, attention: "Letters." Please include your name, address and daytime phone number. Space may require us to edit your letter. You also can e-mail *Missouri Resources* staff at [moresdnr@mail.dnr.state.mo.us](mailto:moresdnr@mail.dnr.state.mo.us)



## News Briefs

### **VERA Comes to Aid of Motorists**



The Missouri departments of Natural Resources and Social Services recently initiated the new Vehicle Emissions Repair Assistance (VERA) program, a component of the Gateway Clean Air Program. The vehicle emissions testing and repair program is an important part of the state's effort to reduce ground-level ozone in the St. Louis area.

VERA helps low-income motorists pay for needed vehicle emissions repairs. Families within or up to 185 percent of the Federal Poverty Guidelines for income could receive up to \$450 in emissions repairs.

More than 500,000 vehicles have been tested at the 12 stations in the city of St. Louis and St. Louis, St. Charles, Jefferson and Franklin counties since the program began in April 2000. The overall average wait time at stations is now less than 10 minutes.

For more information, call the department's [Air Pollution Control Program](#) at 1-800-361-4827 or (573) 751-4817.

### **Three in a Row For State Parks**

Gov. Bob Holden, who is the ambassador for Missouri state parks, has announced that the state park system once again has been recognized as one of the best in the country. Missouri placed among the four finalists in the 2001 National Gold Medal and State Park Awards Program, sponsored by the National Sporting Goods Association's Sports Foundation and the National Recreation and Park Association (NRPA).

The awards are presented for excellence in park and recreation administration and service.

A video produced to promote the state park system will include an introduction by Holden, who has committed to participate in numerous parks events throughout the year.

The winner of the Gold Medal Award will be announced in October. Missouri's sponsor for the competition is Bass Pro Shops Inc. of Springfield. This is the third time the state park competition has been offered and the third time the Missouri state park system has been among the finalists. Other 2001 finalists include New York, Virginia and Wisconsin.

## Relic Returned

Thanks to Steve Fluker and his daughter Amy of Taos, a lost relic of the late 1930s has come home to Rolla and the Missouri Department of Natural Resources' Geological Survey and Resource Assessment Division (GSRAD). The Flukers found an engraved geology pick in an antiques mall.

In 1939, the Rolla Chamber of Commerce, Lions Club and Rotarians honored Missouri State Geologist Henry A. Buehler by presenting him with an inscribed, silver geologist's pick, steeped in Rolla history. (For more information on Buehler, see the Winter 2000-01 issue of *Missouri Resources*.) Buehler, better known as "The Chief," served as state geologist and the director of the Missouri Geological Survey and Water Resources (as GSRAD was previously known), from 1908 to 1944. Buehler is buried in Rolla. The geology pick is inscribed "To Doctor Henry Andrew Buehler - In Appreciation Of Thirty Years Of Service To Rolla."

"My daughter was the first to see the inscription," said Fluker. "Because of the inscription, I felt that there must be some sentimental attachment to this tool somewhere. I thought perhaps Buehler's descendants or his department of employment might hold this old tool in high regard."

Lee Saperstein, dean of the School of Mines and Metallurgy at the University of Missouri-Rolla, put Fluker in touch with GSRAD staff.

The pick, along with other memorabilia from Buehler's time, will be displayed in the Ed Clark Museum at the [Geological Survey and Resource Assessment Division](#)'s Rolla headquarters.

## Cool Cash For Cabinet Company



The Coolbrook Corp., located, about 40 miles west of Springfield, manufactures wood cabinets. Annually, this produces about 250 tons of waste sawdust and shavings.

Recently, the Missouri Market Development Program awarded \$50,000 in financial assistance to Coolbrook Corp. for the purchase of a grinder, conveyor and blower. This allows Coolbrook to grind its wood waste and use it to develop animal bedding as a commercial byproduct. The Avilla-based company also is interested in grinding scrap wood and shavings for other

area businesses. Previously, the waste was deposited in a landfill or burned.

The Market Development Program is based in Jefferson City and is administered by the [Environmental Improvement and Energy Resources Authority \(EIERA\)](#). For more information about recycling markets or to inquire about project assistance, call the program at (573) 526-5555.

## **Department Helps Train Law Officers**

The Missouri State Highway Patrol and the Department of Natural Resources hosted a 40-hour methamphetamine course at the Highway Patrol Academy in Jefferson City. The weeklong Hazardous Waste Operations and Emergency Response Course taught law enforcement officials the hazards associated with clandestine drug labs. Attendees received instruction on how to safely manage various chemicals and hazards encountered at drug labs, select and use appropriate protective equipment, use chemical reference materials and other topics.

At the end of the course, a self-contained breathing apparatus and air-purifying respirator along with other materials to assist with clandestine drug lab seizures were provided to participants.

The course was part of the state's continuing effort to deal with the hazards involved with the eradication of methamphetamine laboratories. To date, more than 200 emergency response personnel have been trained.

For more information, call Brad Harris of the department's [Environmental Services Program](#) at 1-800-361-4827 or (573) 526-3315.

## **Core Library Doubles in Size**



The department's Geological Survey Program at Rolla manages the McCracken Core Library, which is a repository for more than 2.5 million linear feet of exploration rock cores that have been donated to the state. The 10,500-square-foot facility has been doubled to 21,000 square feet. This has allowed the department to consolidate its entire inventory, formerly stored in three locations.

The McCracken Core Library is named in honor of Earl and Mary McCracken, whose service to the geological survey spanned more than three decades. New study and examination room facilities were made possible through donated funds in the memory of Clark S. Rhoden.

Core is a cylinder-shaped segment of rock obtained by using a hollow-core drill. Drilling may be to depths of 1,000 feet or more. Most of the core is 1



3/8 inches in diameter and stored in 2-foot sections.

Core research and examination preserves geological history, leads to a better understanding of Missouri geology and hydrology, and yields data useful in solving environmental, industrial and engineering problems. Core available for study comes from landfills, quarries and hazardous waste sites, as well as highway department construction, and oil, gas and mineral exploration drilling in Missouri.

The McCracken Core Library is one of the largest such collections in the nation and is open to the public.

## **Passport Theme Salutes Famous Missourians**



"Missourians You Should Know" is the theme for the second year of the five-year state park passport program.

The Missouri State Park Passport Program was developed as a way to invite new visitors to Missouri state parks and historic sites and to encourage repeat visitors to explore different or lesser-known parks and sites. In 2000, a five-year program was started featuring a different theme for each year. Each year's theme includes 10 state parks and historic sites.

Visiting all 10 earns a full-color commemorative patch. Full-color souvenir stickers of the same 10 state parks and historic sites will be available each year.

Featured this year are: Thomas Hart Benton Home and Studio, Bothwell Lodge, Scott Joplin House, Gen. John J. Pershing Boyhood Home, Harry S Truman Birthplace, Mark Twain Birthplace, Felix Valle House and Watkins Woolen Mill state historic sites; and Dr. Edmund A. Babler Memorial and Crowder state parks.

The five-year passport booklet is a full-color souvenir booklet that can be purchased and kept as a travel journal. The booklets contain information and color photographs of each park and site and an area to record their visit. Passports can be purchased at most state parks and historic sites, or call Parks toll free at 1-800-334-6946 (voice) or 1-800-379-2419 (Telecommunications Device for the Deaf). Information is available at [[www.mostateparks.com](http://www.mostateparks.com)].

## **Solid Waste Plan Goes Public**

The lengthy process of gathering public input toward the formation of a statewide solid waste management plan in Missouri was launched in late May 2001. The Missouri Department of Natural Resources' Solid Waste

Management Program is charged with gathering the elements of the plan, which may contain recommendations for changes to regulations for better solid waste management.

Future discussions will address commercial, industrial, institutional and construction and demolition wastes.

These meetings will involve people from local government, solid waste management districts, businesses, organizations, institutions, private citizen groups and state agencies. A draft plan will be presented at public hearings for comment before a being finalized.

Further information on the statewide solid waste management plan is available at [www.dnr.state.mo.us/deq/swmp](http://www.dnr.state.mo.us/deq/swmp) or by calling (573) 751-5401 or 1-800-361-4827.

## One Last Word

# Rustic Revival

by Jennifer Sieg

Nestled within some of Missouri's oldest state parks are remnants of an era that brought significant changes to these parks. These remnants are in the form of rustic stone and wood cabins, dining lodges and shelters. Today, to preserve the character and nostalgia of this era, the Missouri Department of Natural Resources is renovating some of the cabins to recreate their original, rugged appearance.

As part of President Franklin D. Roosevelt's New Deal, thousands of workers were sent across the country to build and develop parks. Fourteen Missouri state parks took advantage of this work force, known as the Civilian Conservation Corps (CCC). Well-crafted, rugged facilities were built in the parks in a rustic style set by the National Park Service.

Over the years, the CCC cabins in Missouri's parks went through numerous renovations. Today, CCC cabins at [Meramec](#), [Sam A. Baker](#) and [Bennett Spring](#) state parks are getting another facelift. Construction crews are undoing some of the remodeling to give them back their original, rustic appearance, yet with functional, modern-day appeal.

Civilian Conservation Corps structures once used as barracks for CCC crews at Meramec State Park were transformed into duplex cabins in the 1950s. Because the buildings were originally just one big room, a complete restoration was not feasible. Instead, crews have



At a Civilian Conservation Corps cabin at Bennett Spring State Park, the rustic original decor has been restored from the open ceilings to the wooden floors. DNR photo by Scott Myers.

begun modernizing the interiors of the cabins while retaining the original rustic appearance on the outside.

At Sam A. Baker State Park, CCC structures dominate the landscape, including 18 stone and wood cabins. Plans for four of these cabins call for the reintroduction of knotty pine paneling, large windows and high ceilings – features these cabins once boasted. The cabins' exteriors will look very much like they did when they were built.

The CCC cabins receiving treatment closest to complete restoration are located at Bennett Spring State Park. Three cabins are being returned to the way that they were when they were built, but with a few modern conveniences. Extra bedrooms that were once added will be removed, returning the cabins to one bedroom. Ceilings open to the roof, stone fireplaces, wooden floors and rustic furniture will re-create the original décor. Modern bathrooms and microwaves are being added for convenience. Visitors can now stay in one of these cabins. Gov. Bob Holden and his sons were the renovated cabin's first guests during the opening of trout season.

The cabin restorations at all three parks are an ongoing project that began in the fall of 1999. A historical investigation into the original layout and décor of each cabin began the process. The department's planning and development and cultural resources management programs are working together to "respect the CCC elements in construction, yet meet user demand," says Douglas Eiken, director of the department's Division of State Parks.

*Jennifer Sieg is a public information specialist for the department's [Division of State Parks](#).*



## Resource Honor Roll



Peter H. Raven

Peter Raven is the director of the Missouri Botanical Garden and Engelmann Professor of Botany at Washington University in St. Louis, positions he has held since 1971. The oldest botanical garden west of the Mississippi opened in 1859. During Raven's 30-year tenure, the display and facilities have developed throughout the garden's 79 acres. Its influence in international botanical research circles the globe. The famous one-half-acre geodesic dome Climatron® greenhouse is home to a miniature rain forest. That rain forest represents what Raven sees as the most critical, yet threatened, natural treasure on earth. Many of his more than 550 writings touch on the importance of rain forest

habitat protection and biodiversity.

Rain forest depletion is not a malicious endeavor, according to Raven. Underdeveloped peoples in these areas are overpopulating at incredible rates. "These people have an immediate need to use their forests for economic gain," Raven said. "They do this by cutting trees for lumber or clearing land ... for crops." Unfortunately, about two-thirds of all the world's animal and plant species are contained in this dwindling resource. "... people are destroying the rain forests so rapidly that only small patches may be left in 60 years," Raven added in a 1999 *World Book Science Year* interview.

Raven believes that Americans must accept responsibility for protecting these critical resources, even those out of the immediate reach and direct influence of the industrialized nations, because we are the largest consumer of them.

Awards too numerous to list are clear testaments to the respect that both the United States and international communities hold for this "Hero for the Planet," as *TIME* magazine named him. Raven received the National Medal of Science, the nation's highest scientific honor, in December 2000. Raven also is a member of the President's Committee of Advisors on Science and Technology, and in 1999 was named chairman of the National Geographic's Committee for Research and Exploration. He became president of the American Association for the Advancement of Science, the largest professional association of scientists in the world, in February 2001.

International awards include Japan's International Prize for Biology, as well as

environmental awards from the United Nations, Canada and Sweden.

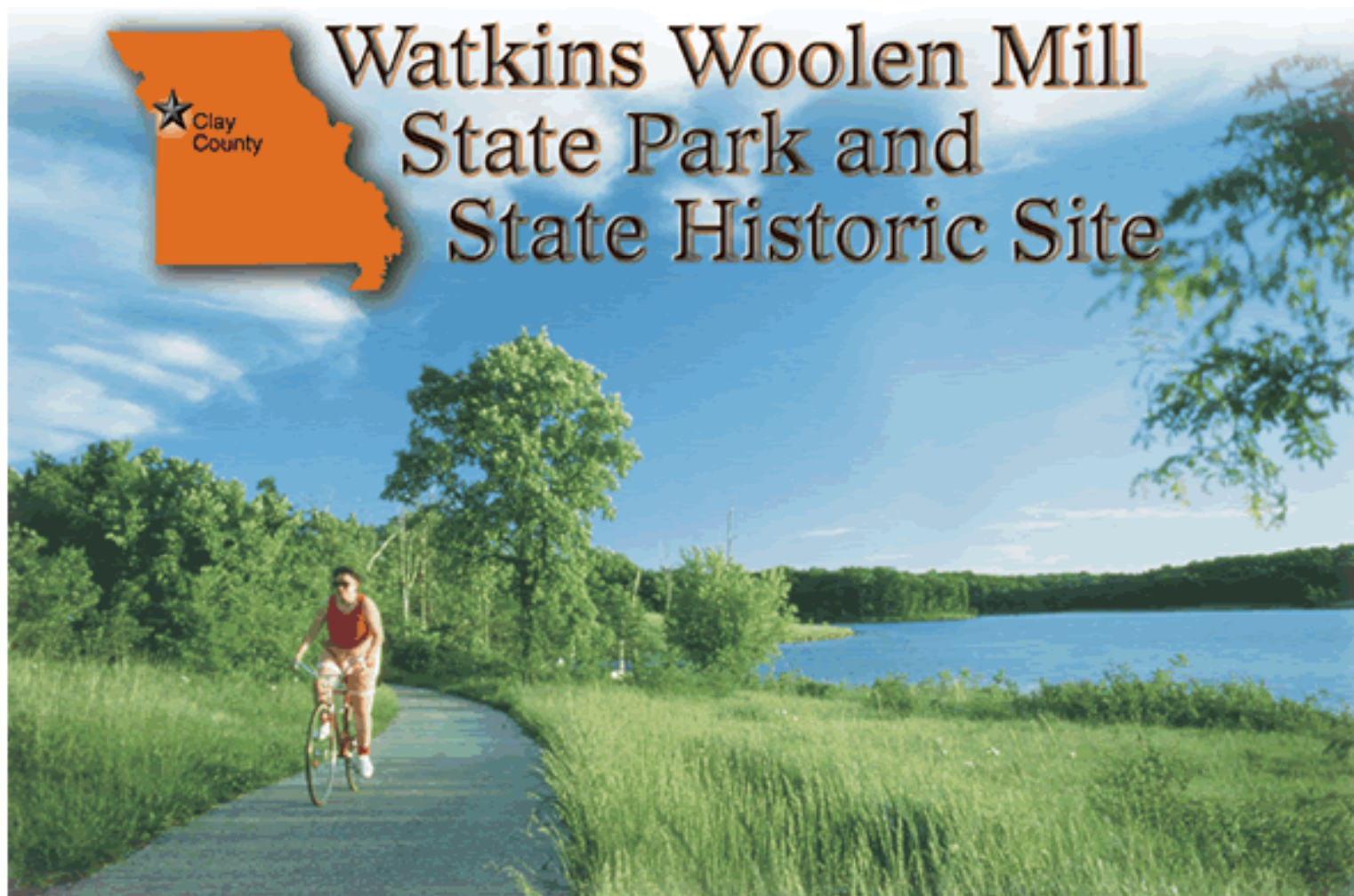
Raven sees the next impending extinction as very different from prior ones for two reasons. While the preceding cataclysms were due to natural events such as ice ages and asteroids, man is clearly causing the next. Raven maintains humans should believe this and do something about it. "Like it or not, we're in the position of Noah just before the flood - looking at an upcoming extinction of enormous proportions and realizing that we alone are responsible for saving as many creatures as we can," he said.

"Without plants, human life will end."

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## Resources to Explore



A paved hiking and bicycling trail encircles Williams Creek Lake at Watkins Woolen Mill State Park and State Historic Site.

DNR photo by Tom Nagel.

Where can you tour the only 19th-century woolen mill remaining in the United States with its original machinery intact, bicycle or hike around a 100-acre lake on a paved path, view exhibits on life in the 19th century and spend an evening in a wooded campground? That and much more can be seen and experienced at [Watkins Woolen Mill State Park and State Historic Site](#).

This unique facility is located in northeastern Clay County approximately 30 miles north of Kansas City near the communities of Excelsior Springs, Kearney and Lawson. The 1,440-acre site offers a variety of recreational activities and opportunities to learn about agriculture and industry in 19th-century Missouri.

The historic site encompasses a large part of the original farm owned by Waltus L. Watkins called Bethany Plantation. Watkins was a native Kentuckian who spent his formative years on the family farm and apprenticed in textile mills. He learned the textile trades and became a master machinist.

In 1830, Watkins moved to western Missouri settling in Liberty, where he set up the first cotton-spinning mill and circular sawmill in the county. He also operated a gristmill, tannery and wool-carding mill.

Watkins married Mary Ann Holloway in 1834. They raised five boys and four girls to adulthood, (two sons died in infancy), and cared for two foster children. In 1839, he sold his mill and other holdings in Liberty and moved to the present location of the historic site and park.

Watkins bought 80 acres in northwest Clay County and obtained 520 acres in federal land grants. Then he constructed a log cabin for his family and began farming. This land was mostly open, rolling prairie with stands of timber along creek bottoms and ravines. The location provided access to both water and the Lexington-St. Joseph highway – favorable ingredients for farming and milling operations. He continued to increase his land holdings and by 1880 owned more than 3,600 acres in Clay and Ray counties. Bethany Plantation comprised 1,800 of those acres.

The Watkins family primarily focused on raising shorthorn cattle, a dual-purpose breed selected for its dairy and beef traits, and mules. They also raised chickens, horses, swine and turkeys, and kept bees for honey and beeswax. The family maintained a large kitchen garden and nearly 25 acres of orchards. Watkins also cultivated more than 1,000 acres for corn, hay and oats.

Along with a smokehouse for curing meat, Watkins had a fruit-drying house to preserve fruit for the winter. Both of these buildings can be seen today, along with a reconstructed icehouse where ice cut from an ice pond on the farm was stored.

The large, two-and-one-half story Greek Revival family home was built between 1850 and 1854 from bricks that were fired on the grounds. Oak and walnut lumber used in the house was processed at one of the sawmills at Bethany, and fine detail elements for the



home were shipped from Kentucky. Today, visitors can tour the home and see it as it was in the 1870s. Most of the furnishings were owned by the Watkins family and greatly enhance the understanding of how this family lived.

Between 1860 and 1861, Watkins constructed his woolen mill and a new chapter in the family's productive life began. During this time, Missouri and surrounding states had become regional leaders in sheep production as the woolen industry rapidly grew in the area.

By 1870, there were approximately 850 woolen mills operating in the Midwest. Watkins Woolen Mill was one of the first and largest to be constructed in Missouri.

Raw wool, more than 30 tons per year, was processed in the three-and-one-half-story mill. Varieties of quality fabrics, blankets, shawls, yarns and batting for quilts were produced. These items were sold both locally and shipped to stores in St. Joseph, St. Louis, Chicago and Leavenworth, Kan. The mill employed up to 40 highly skilled workers.



Vintage textile equipment, such as these carding engines, is on display inside the mill.  
*DNR file photo.*

More than 50 machines were used in the processing. These same pieces of textile equipment can be seen today along with the power source – a 60-horsepower steam engine and riverboat boiler. Carding engines and spinning jacks are located on the third floor. The second floor houses four different styles of looms and yarn-production equipment, including two rare ring-frame ply twistors. The sales area and fabric-finishing rooms are located on the first floor. There also are vats for dyeing purposes and a platform for drying wet, cleaned fleeces. Sometime in the 1860s, a gristmill was moved into the factory, providing cornmeal and different grades of flour that were sold along with the other manufactured goods, as well as domestic and farm supplies.

In 1868, Watkins' son, John, joined him in a partnership. The senior Watkins became ill in 1882 and sold all of his holdings to three of his sons. Waltus Watkins died in 1884. By the late 1890s, competition and antiquated machinery led to the closing of the mill. The Watkins family continued to operate the farm until it was sold to private owners in 1945.

The property, home and mill were sold, once again, at an auction in 1958. Lee Oberholtz

and Forest Ingram, who purchased the contents of the mill, along with George Reuland, formed the Watkins Mill Association. Later, the association acquired the mill, house and other structures with some land and was largely responsible for preserving the structures.

In 1963, the association, along with hundreds of volunteers, helped pass a bond issue in Clay County to purchase the property. The county then transferred the property to the state of Missouri and on Jan. 1, 1964, it became a state historic site. Constructed in 1871 and 1856 respectively, the Mt. Vernon Baptist Church and octagon-shaped Franklin School also are part of the historic site.

Today, visitors can tour both the house and the mill, which is designated as a National Historic Landmark. During the summer months, visitors can experience a bit of the past through the historic site's Living History Farm Program, which focuses primarily on the 1870s. Costumed interpreters guide visitors through the major structures and are involved in various farm and domestic activities of the time. Rare breeds of sheep, Cotswolds and merinos, along with bronze turkeys and an array of chicken breeds common during the period, are part of the program. A large garden is planted each year with heirloom vegetables, flowers and fruits. On Saturdays, guests may find themselves caught up in a game of town ball – an early form of baseball.

After experiencing the past, visitors can step back into modern times and enjoy the 818-acre state park, which lies adjacent to the historic site. Opportunities to hike, bicycle, swim, fish or camp await visitors.

The park's focal point is Williams Creek Lake. Fishermen can launch a small boat or cast their lines off of a fishing pier in hopes of reducing the lake's plentiful stock of bass, catfish, crappie and sunfish. On hot summer days, enjoy the sand swimming beach or cool off in the lake.

For those seeking exercise while enjoying nature, two trails provide the perfect opportunity. The more popular of the two trails, a 3.75-mile paved hiking and bicycling trail, encircles the lake. Several picnic areas are located along the path, providing a place to rest or enjoy lunch. An open picnic shelter, overlooking the lake, also is near the bicycle path and can accommodate larger groups. For hikers and equestrians wanting to take in nature and the abundant wildlife at the park, a 3.5-mile loop trail meanders through a wooded area passing by two creeks.

Spending the night under the stars can top off a day of history and outdoor fun. Nearly 100 campsites, both basic and electric, are



In the heirloom kitchen garden, costumed interpreters demonstrate farm activities of the 1870s.  
*DNR photo by Michael Beckett.*

widely spaced in a wooded area of the park. Campground amenities include two modern restrooms, hot showers, a dumping station and coin-operated laundry facilities. Some of the campsites can be reserved, with the remainder available on a first-come, first-served basis.

The visitor center's exhibits and audiovisual presentations focus on mid-to-late 19th-century life in Missouri. They provide information on the woolen industry of the Midwest, the gristmill operation and steam power. Woolen goods produced in Watkins Woolen Mill are on display, as well as period clothing worn by the Watkins family, quilts, artifacts and manuscripts relating to the Watkins family and the mill.

For more information about the historic site or park and volunteer opportunities, contact Watkins Woolen Mill State Park and State Historic Site at (816) 580-3387 or visit our Web site at [[www.mostateparks.com](http://www.mostateparks.com)].

*Michael Beckett is the historic site administrator at Watkins Woolen Mill State Park and State Historic Site. Jennifer Sieg is a public information specialist for the department's [Division of State Parks](#).*

# MISSOURI resources

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## Teacher's Notebook

### Career Connection

# 'Air Force' Engineer

by Tracey Berry



Department of Natural Resources Environmental Engineer Tanya Black reviews air pollution control systems and calculates the amounts of contaminants industries will emit.

*Editor's Note: This is the first in a series of Teacher's Notebooks spotlighting career opportunities within the Missouri Department of Natural Resources. Career Connection will appear in every other issue.*

Working as an intern at Kansas City Power and Light, Tanya Black could see the smog of the city as she drove to work. Air pollution was unavoidable. She recalls her mother hanging clothes outside to dry at their Kansas City home and the unpleasant odor they would pick up from pollutants in the air. These days, as an environmental engineer with the Missouri Department of Natural Resources, Black is

working to change that.

She said she was drawn to environmental work because it gave her the opportunity to make a difference for the better. "That might sound like a cliché, but we all have to breathe," she said.

The concerns created by pollutants in the air can be far more serious than the inconvenience of smelly clothes. Toxic air pollutants can cause serious harm to human and environmental health. Air toxins can lead to eye irritation, aggravate breathing disorders like asthma and emphysema and even are linked to more serious health problems. Exposure to air toxins also threatens wildlife by decreasing fertility and impairing the



immune systems of fish, birds and mammals.

In 1970, in an effort to improve air quality for Americans, Congress implemented the Clean Air Act. In 1990 the act was revamped to more effectively reduce emissions of toxic air pollutants.

As part of the new strategy, the U.S. Environmental Protection Agency (EPA) developed rules known as Maximum Achievable Control Technology, or MACT standards. The standards require major sources of air pollution, such as lead smelters, oil refineries and hazardous waste incinerators, to limit their emissions. Area sources of toxins, like dry cleaners and degreasing operations, were likewise targeted. The EPA bases MACT levels on the emissions of the cleanest performers within a particular industry.

"This is a relatively new area. There are still a lot of new MACTs coming out of EPA," Black said.

The Department of Natural Resources is involved in enforcing the EPA rules. As an engineer with the department's Air Pollution Control Program, Black studies the MACT standards for a number of different industries. On her desk sits a thick volume that contains Hazardous Waste Combustor MACT standards. She is reviewing the document to assist a company that operates a cement kiln that burns hazardous wastes to create the heat needed for its processes.

She also has worked closely with a company that hauls, treats and incinerates sludge created by dry cleaning. While burning the waste means it will not end up in a landfill, Black must ensure that the waste-hauling company releases as few pollutants as possible.

Department of Natural Resources' engineers' responsibilities include reviewing industries' operating and construction applications for permits. This may involve examining the hydraulics and details of air pollution control systems, determining which requirements apply to the industries filing applications, calculating the amounts of air contaminants the industries will emit, and evaluating whether the industries are complying with the EPA rules to limit air pollution. Engineers then must set the terms and conditions of permits, complete written documentation and engineering reports, hold public hearings about permit applications when required, and recommend denial or approval of permits.

Assisting all of the industries in Missouri that are potential sources of air pollution is a monumental task, but Black and her colleagues aim high and work hard. Much like the department's Environmental Assistance Office, the Air Pollution Program focuses on prevention rather than punishment.

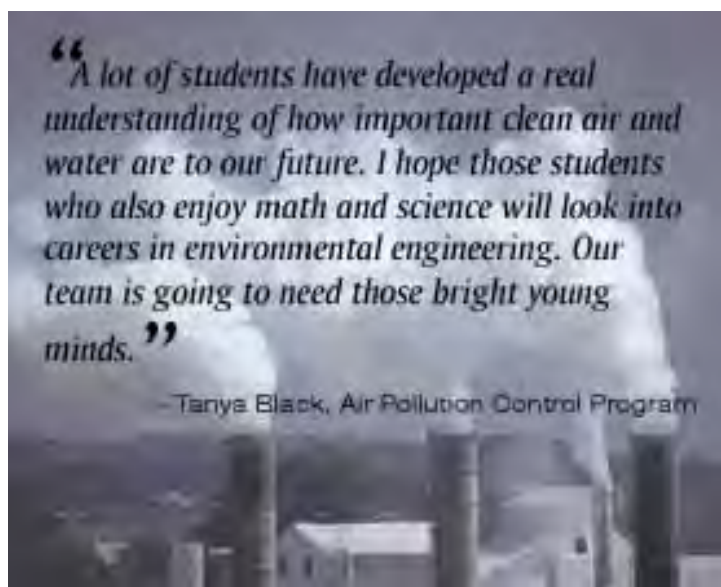
Black's typical workday is occupied assisting air pollution control systems inspectors and representatives of the industries they are inspecting. For example, a pharmaceutical maker recently requested a variance to the regulation that temperature gauges be installed on condensers. Black reviewed the company's request to recommend whether the department could approve it.

Black became interested in working to better the environment while attending the University of Kansas at Lawrence. She had planned to become an anesthesiologist and was studying chemical engineering with a pre-medical-school option. As part of her curriculum, she took a science class with an environmental focus and immediately was hooked. Her interest in healing shifted from the human body to the world we live in.

"I decided I wanted to work in an environmental field rather than industry, so I got away from pre-med and got into an environmental emphasis," she said. After graduation, a Department of Natural Resources recruiter convinced Black to bring her skills to the agency's "air force."

She said students who are interested in environmental engineering careers should study hard and demonstrate initiative - traits important to engineers.

"A lot of students have developed a real understanding of how important clean air and water are to our future. I hope those students who also enjoy math and science will look into careers in environmental engineering. Our team is going to need those bright young minds."



To qualify for an environmental engineering position with the department, candidates must possess a bachelor's degree in engineering from a school where the curriculum is accredited by the Accreditation Board of Engineering and Technology, or provide proof of either acceptance for part one of the examination for registration as a professional engineer in Missouri or engineer-in-training certification.

Black says she sometimes meets people who do not understand that she is trying to enforce rules that are already in place.

"If someone gets pulled over for speeding, does it make sense for them to get mad at the police officer who pulled them over? No, because they shouldn't have been speeding. It's the same type of thing."

Black says she enjoys most facets of her job from the technical assistance to the engineering calculations. "This gives me a chance to make a difference. Or, at least to try, anyway. "

There are 142 environmental engineers with the Department of Natural Resources, 33 of whom, like Black, work out of the Air Pollution Control Program. Call our [Human Resources Program](#) at (573) 751-2518 for more information.

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Elephant Rocks State Park's giant boulders have made the area a favorite spot for picnics and exploring, but before it became a park, the land was mined for its granite. The Graniteville



Company quarry and other area quarries produced as many as 50,000 to 60,000 paving blocks per month, many of which paved the roads of St. Louis. Higher quality blocks were used to build houses. The nearby town of Graniteville was largely owned and built by the quarry company. Today, a few original granite buildings remain, including a schoolhouse. This photograph is part of the Department of Natural Resources' Geological Survey and Resource Assessment Division collection from the Missouri State Archives.

Send your photo to: Time Exposures, c/o *Missouri Resources*, P. O. Box 176, Jefferson City, MO 65102-0176. All pictures will be returned via insured mail. Pre-1970 environmental and natural resource photos from Missouri will be considered. Please try to include the time and location of the picture, a brief description and any related historic details that might be of interest to our readers.

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## IN THE SPIRIT OF ST. LOUIS

### URBAN OUTREACH OFFICE TAKES FLIGHT

by Julianne Stone

photographs by Scott Myers

Upon becoming director of the Missouri Department of Natural Resources, Steve Mahfood wanted to create an innovative means for addressing the unique environmental challenges Missouri's urban areas face. Mahfood wanted the agency to become a visible partner in local planning and policy-based initiatives that had environmental components.

This approach served as the basis for the department's Urban Initiative, designed to bring people and resources together to enhance and protect the natural and cultural environment of Missouri's urban regions. The initiative called for opening new offices in St. Louis and Kansas City. "Our first step was to evaluate the needs of the community so we could make sure we had adequate resources available to us," said Walter Pearson, director of Business and Urban Affairs for the department. "We wanted to see what government was providing and where we could better meet needs. It was a great opportunity for us."

"The department is moving toward having more people in the field," Mahfood said. "They know the area, its residents, politics and culture intimately, and they have a special sense of mission because they are working in their own communities."



Julianne Stone, director of the St. Louis Urban Outreach Office within the Missouri Department of Natural Resources, builds bridges with officials at City Hall.



It's good for the community, and it's good for the agency. We can be more proactive and responsive to local needs. Using an interdisciplinary approach enables us to address environmental issues from a broader perspective."

In the fall of 1999, I came to the newly formed St. Louis outreach office from the post of policy assistant to St. Louis City Mayor Clarence Harmon. My duties included handling environmental policy issues and neighborhood revitalization.

I soon learned that building bridges in the community was just as important as addressing the technical aspects of these complex issues.

As a committed city-dweller, I believe in the importance of protecting our state's urban environments and in the idea of responsive government.

In getting the St. Louis Urban Outreach Office open, we needed to let the community know we were coming. Local elected officials, business and community leaders, and our own agency staff needed to know who we were and what our role would be.

Our office, at 4030 Chouteau, was chosen for its location in a neighborhood under redevelopment. It serves St. Louis City and the counties of St. Louis and St. Charles. Our staff of six represents the Office of the Director, the Missouri Energy Center, the Division of State Parks, the Historic Preservation Program, the Gateway Clean Air Program and the Division of Environmental Quality.

It already has become a nexus for local partners to come together to discuss and debate the pressing environmental concerns of the St. Louis region. Our staff combines the diverse expertise and perspectives of several agency divisions. The Department of Natural Resources may be headquartered in Jefferson City, but we are in your community, and we understand your issues.

The St. Louis Urban Outreach Office's mission, unlike that of the longstanding St. Louis Regional Office, is nonregulatory. But, as noted by regional office director Mohamad Alhalabi, the two offices and their staffs have forged a mutually beneficial relationship. "While the regional office serves a much broader jurisdiction, our two staffs coordinate whenever possible. The mutual goal is to ensure that at the same time our regulatory arm is working in the region to ensure environmental protection, we help provide the tools and knowledge to fulfill those requirements," Alhalabi said.

Local organizations also are finding the office's presence beneficial. Deborah Chollet, director of the Gateway Center for Resource Efficiency, a new division of the Missouri Botanical Garden notes, "Accessibility to government agencies is always a challenge. This office provides an easier way for local groups like mine to access your agency and its resources. The outreach concept should strengthen your ability to be responsive to local priorities, and it validates many of the goals that the community has been trying to accomplish on its own."

Others echo this sentiment. Mike Alesandrini, director of Environmental Affairs for the St. Louis Regional Chamber and Growth Association adds, "The outreach office has already helped to facilitate discussion and communicate our concerns on some crucial issues to department staff in Jefferson City. It is useful to have local policy staff who know our organization and are available to work with and talk to our members on a daily basis. The office illustrates the commitment of agency leadership to finding new ways to do business."



Kris Zapalac, with the department's Historic Preservation Program, has been working with local and state agencies to retain the historic integrity of Eads Bridge in St. Louis during recent renovations.

The St. Louis urban outreach team is dedicated to proving that this model can work well. They are representative of the Department of Natural Resources and the region from a professional, geographical, cultural and gender standpoint.

Mary Donze, a parks planner with the department's Division of State Parks for 18 years, relocated to St. Charles two and one-half years ago. This assignment allows her to continue her work as a statewide park planner while branching out into urban park projects. Donze says her move is advantageous for the department. "The majority of

our state parks users hail from urban regions. Being closer to this constituency helps us get information out to the public and with the formation of partnerships that have proven very valuable."

Donze's recent projects include planning for the new state park at the confluence of the Missouri and Mississippi rivers and representing the Department of Natural Resources on various partnership projects in the St. Louis area, including Confluence Greenway, Gateway Parks and Trails, Meramec River Master Planning effort and the St. Charles Environmental Development Advisory committee.

In the past, there has not been a government official in the St. Louis area dedicated to addressing energy issues. The Missouri Energy Center, committed to promoting energy efficiency and renewable energy use and informing Missourians about energy-related topics, hired agency veteran and St. Louis City resident, Pat Justis. An employee of the department's Division of Environmental Quality for six years, Justis explains that after working on the cleanup of Times Beach and the development of the state's risk management programs, he was ready for something new. "When the St. Louis Urban Outreach Office was born, I made the move because of my interest in merging environmental protection, energy and urban issues," Justis said.

One of Justis's first priorities includes local implementation of the U.S. Department of Energy Rebuild America Program. The effort will focus on improving energy efficiency in

schools so tax dollars can be spent for education needs and on energy education in the classroom.

Office manager Brenda Holmes, a resident of University City, came from Cutler-Hammer in St. Louis, where she served as an administrative assistant for more than 15 years. After so many years working for a sales staff of 35, managing a small office offers new challenges. She keeps staff organized, supplied and informed in a busy environment where everything seems to be a priority.

As many in the St. Louis region recognize, historic and cultural preservation are important to Missouri's urban areas. The department's Historic Preservation Program wanted a staff person closer to the local action. Enter Kris Zapalac, a historian, professor, rehabber, and Web designer who arrived in St. Louis 11 years ago. She has been active in the local community designing Web sites for the Soulard Historic District, St. Louis' historic house museums, the Landmarks Association, and Tower Grove Park. Zapalac's appreciation of St. Louis's rich architectural and cultural heritage paired with her knowledge of the area makes her an asset in tying the department's preservation efforts with those of the community. Most recently, Zapalac has been helping coordinate discussions on resistance to slavery in 19th-century Missouri.



The Urban Outreach Office staff takes an interdisciplinary approach to protecting St. Louis' natural and cultural resources. Ombudsman Julius Johnson visits a Gateway Clean Air Program inspection station.

Julius Johnson, a St. Louis native, lives in Des Peres and came to the department after serving as publications director to former Secretary of State Bekki Cook. Johnson was brought on to be the ombudsman to the Gateway Clean Air Program, a St. Louis region auto emissions program required by the U.S. Environmental Protection Agency and by state legislative mandate. Since the program began in April 2000, more than 750,000 emissions tests have been performed. As ombudsman, Johnson's responsibilities include mediating, clarifying and solving constituent issues as well as increasing customer service and satisfaction with the newly implemented inspection program. Johnson emphasizes, "Prompt, efficient, and seamless service means ongoing evaluation and improvement."

The St. Louis Urban Outreach Office marks the first phase of department director Mahfood's vision for the Urban Outreach Initiative. The department already is actively planning the 2001 opening of the Kansas City Urban Outreach Office to be located in the Discovery Center, at 4750 Troost Ave.

"I am absolutely committed to involving industry and citizens in our decision-making process," said Mahfood. "Performance is measured by achieving real results in the real world, not just by following procedures. We don't have to sacrifice people's needs in the name of environmental protection. Public input and involvement isn't just a rural thing;

urban areas need direct access to our staff, too. In light of the numerous and complex environmental challenges facing Missouri's urban centers, they need it now more than ever."

*Julianne Stone is director of the department's St. Louis Urban Outreach Office at 4030 Chouteau Ave.*